

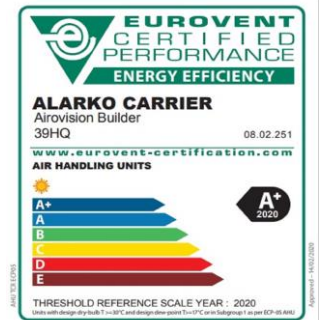
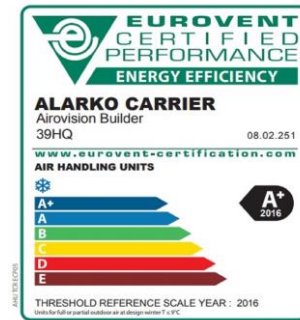
Technical Specification

Project name :	Airovision Builder version: E1.13 (12-4-2022)(R086)/A
Quotation no. : 6.5 AHU Technical Guide / 002	Eurovent identification number: 08.02.251

GENERAL DATA

Customer reference	6.5.1 RHW 2000 04.06
Number off	1
Location	External (flat roof)
Delivery	In sections
AHU finish	Outside in standard colour (RAL 7035)
Product	Air handling unit
AHU configuration	Side by side (opposite)
Pallet option	Excluded
Lifting Beam	Included
Total weight (each)	kg 829
(Radiated casework SWL)	dB(A) 60
ErP identification code	NRVU / BVU

Eurovent energy classification



SFPe	kJ/m ³	2.11	SFPv	kJ/m ³	1.97
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Calculations conform to the Regulation for bidirectional ventilation unit (BVU) for delivery after 01.01.2018
Remarks are needed to be solved to comply with the Regulation.

Ecodesign 1253/2014 2018 BVU after 01.01.2018

Intermediate calculations

E (HR Bonus) (Pa)	93
F (Filter correction) (Pa)	0
SFP int_limit (W/(m ³ /s))	1109.7
SFP int supply air (W/(m ³ /s))	185.3
SFP int extract air (W/(m ³ /s))	145.9
SFP int (W/(m ³ /s))	331.1

Supply air unit data

Airflow (m ³ /s)	0.56
Static pressure (Pa)	695
p fan (kW)	0.66
n fan (%)	59.0
Fine Filter	Yes
dp Fine filter (Pa)	29
nt nrvu (%)	76
dp HRS (Pa)	80

Extract air unit data

Airflow (m ³ /s)	0.56
Static pressure (Pa)	547
p fan (kW)	0.52
n fan (%)	58.9
Medium Filter	Yes
dp Medium filter (Pa)	6
nt nrvu (%)	76
dp HRS (Pa)	80

Check

Fan is selected with VSD	Passed
Heat recovery	Passed
Thermal by-pass facility	Warning
SFP int	Passed
Filters equipped with pressure gauge	Passed

Total check

Passed

Remark
To comply with Regulation EU No 1253 you need to equip the heat wheel with a rotor controller.

ACCESS DATA

Handle type	L-Handle	Pressure guard at positive pressure doors	Included
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EXHAUST DATA

Type	39HQ 04.06	Air volume	m ³ /s	0.56
Casing construction	GP080 60 mm	Internal sheet		Galvanised 0.80mm
Insulation	Glasswool 23 kg/m ³	External sheet		PUR-PA painted galvanized steel 0.80mm
Unit velocity	m/s 1.01	Profile		Steel
SFPe	kJ/m ³ 0.93	SFPv	kJ/m ³	0.89

Mechanical performance according EN1886	Model box	D1	L1 (-400Pa)	L1 (+400Pa)	L1 (+700Pa)	F9	T2	TB2	
	Real Unit		L2 (-400Pa)	L2 (+400Pa)	L2 (+700Pa)				

(Sound data exhaust SWL)	Hz	125	250	500	1k	2k	4k	8k	dB(A)
	dB	47	60	63	63	63	62	56	69
	dB	49	65	67	69	67	61	55	72

SUPPLY DATA

Glasswool 23 kg/m ³ Type	39HQ 04.06	Air volume	m ³ /s	0.56
Casing construction	GP080 60 mm	Internal sheet		Galvanised 0.80mm
Design outdoor temperature	°C 9.0	External sheet		PUR-PA painted galvanized steel 0.80mm
Design outdoor temperature (summer)	°C 37.5	Insulation		Glasswool 23 kg/m ³
Design outdoor dew point (summer)	°C 16.8	Profile		Steel
Unit velocity	m/s 1.01			
SFPe	kJ/m ³ 1.18	SFPv	kJ/m ³	1.08

Mechanical performance according EN1886	Model box	D1	L1 (-400Pa)	L1 (+400Pa)	L1 (+700Pa)	F9	T2	TB2	
	Real Unit		L2 (-400Pa)	L2 (+400Pa)	L2 (+700Pa)				

(Sound data supply SWL)	Hz	125	250	500	1k	2k	4k	8k	dB(A)
	dB	51	56	58	54	49	40	33	58
	dB	54	69	71	75	76	70	67	80

In direction of airflow, the unit comprises:

DELIVERY SECTION(S)

Section	Width (mm)	Height (mm)	Length (mm)	Baseframe (mm)	Weight (kg)	Weight (Lifting Beam) (kg)
1	738	1058	898	62	117	
2	738	1058	1058	62	81	
3	738	1058	1058	62	107	
4	1476	1058	578	62	157	
5	738	1058	1169	62	177	11
6	738	1058	1009	62	107	
7	738	1058	578	62	79	

EXHAUST COMPONENTS

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INLET					
Opening Position		Full face		Provided with:	
Number of openings		1		Opening product	Duct spigot
Opening, width x height	mm	640 x 960			
Pressure drop	Pa	2			

FILTER					
Filter type		Panel (Synthetic)		Withdrawal method	Side
Test method		EN 779 / ISO 16890		Filter frame material	Galvanised
EN 779 Class		M5		Filter casing material	Galvanised
Eurovent Efficiency Class		NA			
ISO 16890 Class		ISO ePM10 50			
Design pressure drop		Mean pd			
Initial pressure drop	Pa	26			
Mean pressure drop	Pa	53			
Final pressure drop	Pa	79			
Filter length	mm	48			

Filters					
592x592	Qty	1	592x287	Qty	1

ACCESS					
Access type		Door	Access side		Right

EXTRAS
1 x Pressure gauge wall mounted, Magnehelic 2000

INLET PLENUM					
Air pressure drop	Pa	0			

FAN					
Fan type		K3G280PS10J2		Installed motor power	kW
Fan arrangement		Fan Wall - 1x1		Motor	Run
Air volume	m³/s	0.56		Motor efficiency class	IE4
External static pressure	Pa	392		Motor nominal speed	rpm
Internal static pressure	Pa	152		Voltage	V
Static pressure ISP+ESP	Pa	544		Current	A
System effect	Pa	3		Abs. motor power incl. F.I.	kW
Extra static pressure	Pa	0		Control Signal (0-10V)	V
Total static pressure	Pa	547			
Dynamic pressure	Pa	35		Fan bulkhead material	Galvanised
Total pressure	Pa	582			
Fan speed	rpm	2597			
Max fan speed	rpm	3400			
Efficiency (total)	%	62			
Fan shaft power	kW	0.52			

(Fan sound data SWL)	Hz	63	125	250	500	1k	2k	4k	8k
Total	Inlet dB	36	48	61	64	64	64	64	58
	Outlet dB	42	51	67	70	73	72	67	63

FAN EXTRAS
Inlet cone measuring points

ACCESS					
Access type		Door	Access side		Right

EXTRAS
2 x Measuring nipple, 6mm
1 x Fanwall terminal box

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HEAT WHEEL					
Rotor situation		Build-in			
Winter conditions					
Exhaust air on	°C/%RH	22.0 / 40	Exhaust pressure drop	Pa	80
Exhaust air off	°C/%RH	7.2 / 99			
Summer conditions					
Exhaust air on	°C/%RH	27.0 / 47	Exhaust pressure drop	Pa	80
Exhaust air off	°C/%RH	35.0 / 30			

SUPPLY COMPONENTS

DOUBLE MIXING BOX					
Opening Position		Full face	Provided with:		
Number of exhaust openings		1	Opening product		None
Exhaust opening, w x h	mm	640 x 960	Damper		External, Opposed blades, Aluminium
Pressure drop	Pa	1	Number of Dampers		1
Actuator type		External	Damper Code		DMP0538x0858-200-162-5-D1Y1-0
Actuator Side		Right			
Access side		None	Number of Drive shafts (Total) x Torque for one shaft	Nm	1 x 4
Opening Position		Left side	Provided with:		
Number of Recirc openings		1	Opening product		None
Recirc opening, w x h	mm	640 x 960	Damper		Internal, Opposed blades, Aluminium
Pressure drop	Pa	2	Number of Dampers		1
Actuator type		Internal	Damper Code		DMP0378x0802-110-162-5-D1Y1-0
Actuator Side		Air inlet side			
Access side		None	Number of Drive shafts (Total) x Torque for one shaft	Nm	1 x 4
Opening Position		Full face	Provided with:		
Number of openings		1	Opening product		None
Fresh air opening, w x h	mm	640 x 960	Damper		External, Opposed blades, Aluminium
Pressure drop	Pa	1	Number of Dampers		1
Actuator type		External	Damper Code		DMP0538x0858-200-162-5-D1Y1-0
Actuator Side		Right			
Access side		None	Number of Drive shafts (Total) x Torque for one shaft	Nm	1 x 4
Mixing ratio, winter (recirculation air/supply air) in %	%	0			

FILTER					
Filter type		Panel (Synthetic)	Withdrawal method		Side
Test method		EN 779 / ISO 16890	Filter frame material		Galvanised
EN 779 Class		G4	Filter casing material		Galvanised
Eurovent Efficiency Class		NA			
ISO 16890 Class		ISO Coarse 60			
Design pressure drop		Mean pd			
Initial pressure drop	Pa	22			
Mean pressure drop	Pa	43			
Final pressure drop	Pa	65			
Filter length	mm	48			
Filters					
592x592	Qty	1	592x287	Qty	1



Date: 19/6/2022



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EXTRAS
2 x Pressure gauge wall mounted, Magnehelic 2000

ANY COMPONENT			
Pressure drop	Pa	0	

HEAT WHEEL					
Rotor Model ST1-NL-WV-0815-SM-K3-E1-0,W0915,H0915					
Rotor type	Condensation		Rotor frame material	Aluzinc	
Rotor material	Aluminium		Rotor purging sector	Excluded	
Rotor situation	Build-in		Delivery requirement	Single section	
Component mountings	Galvanised		Rotor Motor Type	Gear Motor-Constant Speed	
Winter conditions					
Supply air on	°C/%RH	2.5 / 62	Supply pressure drop	Pa	80
Supply air off	°C/%RH	17.3 / 23	Supply latent efficiency	%	0
Supply dry efficiency	%	76	Supply latent effectiveness	%	0
Supply dry effectiveness	%	76			
Total duty	kW	10.00			
Summer conditions					
Supply air on	°C/%RH	37.5 / 30	Supply pressure drop	Pa	80
Supply air off	°C/%RH	29.5 / 46	Supply latent efficiency	%	0
Supply dry efficiency	%	76	Supply latent effectiveness	%	0
Supply dry effectiveness	%	76	Dry efficiency at equal airflow	%	76
Total duty	kW	5.50			

EXTRAS
1 x Syphone

FILTER					
Filter type	Bag (Glassfibre)		Withdrawal method	Side	
Test method	EN 779 / ISO 16890		Filter frame material	Galvanised	
EN 779 Class	F7		Filter casing material	Galvanised	
Eurovent Efficiency Class	D				
ISO 16890 Class	ISO ePM1 50				
Design pressure drop	Mean pd				
Initial pressure drop	Pa	46			
Mean pressure drop	Pa	92			
Final pressure drop	Pa	138			
Filter length	mm	360			

Filters					
592x592	Qty	1	592x287	Qty	1

ACCESS					
Access type	Door		Access side	Right	

EXTRAS
1 x Pressure gauge wall mounted, Magnehelic 2000

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CHILLED WATER COIL			Number of coils		
Coil Code	P25-10AR-5R-34T-458A-2.0PA-8NC-Cu	0.36/Al 0.10-1"			1
Air volume	m³/s	0.56	Fluid	100%	Water
Duty	kW	13.95	Fluid flow rate	l/s	0.66
Air on db	°C	27.0	Fluid on	°C	7.0
Air on wb/RH	°C/%	19.0/47	Fluid off	°C	12.0
Air off db	°C	12.0	Fluid content	l	7.42
Air off wb/RH	°C/%	11.6/95	Fluid pressure drop	kPa	37
Sensible duty	kW	10.00			
Air pressure drop coil (Dry)	Pa	43	Air pressure drop elim.	Pa	5
Tubes/fins/connections		Cu / Al / Fe	Connection type		Threaded (Right)
Coil frame		Galvanised	Connection size		1"
Tube thickness	mm	0.36	Fin spacing	mm	2.0
Tube Diameter	mm	9.2388	Fin thickness	mm	0.10
Face velocity	m/s	1.4			
Eliminator		Plastic – side withdrawal	Eliminator frame		Galvanised
Drainpan type		Recessed (sloped)	Drainpan material		Stainless steel 304
Drain pipes on drainpan		1	Intermediate drainpan		No
Condensed Water	l/min	0.1	Syphon Type		Negative
Coil Weight	kg	26.60	Xin/Yin/Xout/Yout	mm/mm/ mm/mm	164/50/76/76

EXTRAS
1 x Syphone

HOT WATER COIL			Number of coils		
Coil Code	P25-10AR-2R-34T-458A-2.0PA-7NC-Cu	0.36/Al 0.10-3/4"			1
Air volume	m³/s	0.56	Fluid	100%	Water
Duty	kW	11.33	Fluid flow rate	l/s	0.55
Air on db	°C	10.0	Fluid on	°C	45.0
Air off db	°C	27.0	Fluid off	°C	40.0
Air pressure drop	Pa	12	Fluid content	l	3.27
			Fluid pressure drop	kPa	12
Tubes/fins/connections		Cu / Al / Fe	Connection type		Threaded (Right)
Coil frame		Galvanised	Connection size		3/4"
Tube thickness	mm	0.36	Fin spacing	mm	2.0
Tube Diameter	mm	9.2388	Fin thickness	mm	0.10
Face velocity	m/s	1.4	Xin/Yin/Xout/Yout	mm/mm/ mm/mm	111/50/67/67
Coil Weight	kg	13.68			

EXTRAS
1 x Syphone

STEAM HUMIDIFIER					
Air volume	m³/s	0.56	Humidifier supplier		Condair
Moisture addition	kg/h	9	Number of steam lances		1
Air on db	°C	25.0	Steam lance length	mm	350
Air on moisture content	g/kg	2.8			
Air on rh	%	32			
Air off db	°C	25.7			
Air off moisture content	g/kg	6.6			
Air off rh	%	32			
Steam boiler type 1		EL15	Power each	kW	11.3
Max steam capacity, each	kg/h	15	Current each	A	16.2
Number off		1	Voltage	V	3x400V, 50/60Hz
Boiler weight, each	kg	27			
Section length	mm	960	Drainpan material		Stainless steel 304
Drainpan		Included			



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Note: Electric boilers will be delivered separately (not mounted on the unit). Boiler weights not included in unit weights.

ACCESS
Access type Door Access side Right

EXTRAS
1 x Syphone

ANY COMPONENT

Pressure drop Pa 0

INLET PLENUM

Air pressure drop Pa 0

ACCESS
Access type Door Access side Right

FAN

Fan type		K3G250PR02J2							
Fan arrangement		Fan Wall - 1x1	Installed motor power	kW	1.18				
Air volume	m ³ /s	0.56	Motor		Run				
External static pressure	Pa	392	Motor efficiency class		IE4				
Internal static pressure	Pa	298	Motor nominal speed	rpm	4000				
Static pressure ISP+ESP	Pa	690	Voltage	V	380-480				
System effect	Pa	5	Current	A	1.8				
Extra static pressure	Pa	0	Abs. motor power incl. F.I.	kW	0.66				
Total static pressure	Pa	695	Control Signal (0-10V)	V	6.90				
Dynamic pressure	Pa	48	Fan bulkhead material		Galvanised				
Total pressure	Pa	743							
Fan speed	rpm	3234							
Max fan speed	rpm	4000							
Efficiency (total)	%	62							
Fan shaft power	kW	0.66							

(Fan sound data SWL)	Hz	63	125	250	500	1k	2k	4k	8k
Total	Inlet dB	49	58	63	67	70	69	71	66
	Outlet dB	46	54	69	71	75	76	70	67

FAN EXTRAS
Inlet cone measuring points

ACCESS
Access type Door Access side Right

EXTRAS
1 x Fanwall terminal box 2 x Measuring nipple, 6mm

OUTLET

Opening Position		Full face	Provided with:	
Number of openings		1	Opening product	Duct spigot
Opening, width x height	mm	640 x 960		
Pressure drop	Pa	2		